



## Complete Summary

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### TITLE

Chronic kidney disease (CKD): the practice can produce a register of patients aged 18 years and over with CKD (US National Kidney Foundation: Stage 3 to 5 CKD).

### SOURCE(S)

British Medical Association (BMA) and NHS Employers. Quality and outcomes framework guidance for GMS contract 2009/10. London (UK): British Medical Association, National Health Service Confederation; 2009 Mar. 162 p.

## Measure Domain

### PRIMARY MEASURE DOMAIN

Structure

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### SECONDARY MEASURE DOMAIN

Does not apply to this measure

## Brief Abstract

### DESCRIPTION

This measure is used to assess whether the practice can produce a register of patients age 18 years and over with chronic kidney disease (CKD) (US National Kidney Foundation: Stage 3 to 5 CKD).

### RATIONALE

The international classification developed by the US National Kidney Foundation describes five stages of chronic kidney disease (CKD) using an estimated glomerular filtration rate (eGFR) to measure kidney function. People with CKD stages three to five have, by definition, less than 60 percent of their kidney function. Stage three is a moderate decrease in GFR with or without other evidence of kidney damage. Several groups (National Institute for Health and Clinical Excellence [NICE], Scottish Intercollegiate Guidelines Network [SIGN],

United Kingdom Consensus) have recommended splitting stage 3 into 3A and 3B (see Table 1 in the original measure documentation). Stage four is a severe decrease in GFR with or without other evidence of kidney damage and stage five is established renal failure. The Quality of Outcomes Framework (QOF) indicator set refers to people with stage 3 to 5 CKD.

CKD is a long-term condition; the most recent population data from the National Health and Nutrition Examination Survey (NHANES 1999-2004) suggests that the age standardised prevalence of stage 3 to 5 CKD in the non-institutionalised American population is approximately 6% (Coresh et al., JAMA 2007). The prevalence in females was higher than in males (6.9 versus 4.9%). In the fully adjusted model, the prevalence of low GFR was strongly associated with diagnosed diabetes (OR, 1.54; 95% CI, 1.28-1.80) and hypertension (OR, 1.98; 95%CI, 1.73-2.67) as well as higher body mass index (BMI) (OR, 1.08; 95% CI, 1.02-1.15 per 5-unit increment of BMI).

In the UK the prevalence of CKD stage 3–5 was 8.5% and was higher in females, 10.6% in females versus 5.8% in males (Stevens et al., Kidney International 2007). The Association of Public Health Observatories has modelled the prevalence of CKD for England and Wales based on the results of the study by Stevens et al. and report a population prevalence of 8.9%.

The NHS Information Centre reports a prevalence of CKD for 2006/7 of 2.4% using QMAS returns suggesting that, to date, CKD is under-reported in English general practitioner (GP) practices.

This measure is one of five [Chronic Kidney Disease](#) measures. The CKD indicator set applies to people with stage three, four and five CKD (eGFR less than 60 mL/min/1.73m<sup>2</sup> confirmed with at least two separate readings over a 3 month period).

CKD may be progressive; prevalence increase with age and female sex but progression increases with male sex, and South Asian and African Caribbean ethnicity. People of South Asian origin are particularly at risk of having both diabetes and CKD. Diabetes is more common in this community than in the population overall. People of African and African Caribbean origin have an increased risk of CKD linked to hypertension.

Only a minority of people with stage one or two CKD go on to develop more advanced disease and symptoms do not usually appear until stage four. Where eGFR has persistently been recorded below 60 (less than 60) the CKD (stage 3) label should continue to apply, even if future management may lead to an improvement in eGFR.

Early identification of CKD is important as it allows appropriate measures to be taken not only to slow or prevent the progression to more serious CKD but also to combat the major risk of illness or death due to cardiovascular disease. The presence of proteinuria is a key risk multiplier at all stages of CKD and CKD is an independent risk factor for cardiovascular disease and a multiplier of other risk factors (Wali and Henrich, Cardiol Clin 2005).

NICE guidance, early identification and management of Chronic Kidney Disease in adults in primary and secondary care was published in September 2008. See also the SIGN Guideline 103, Diagnosis and management of CKD in adults, June 2008.

These indicators reflect both of the guidance documents:

- Albumin-creatinine ratio (ACR) is the preferred measure of proteinuria
- NICE suggests blood pressure (BP) should be kept below 140 (systolic) and 90 (diastolic) with a target for systolic of between 120 and 139 mm Hg. There is a tougher standard for diabetes. This compares with a BP audit standard of 145/85 in this guidance for 40 to 70% of the CKD population
- NICE recommends that the use of ACE inhibitors when there is hypertension and an ACR of greater than or equal to 30mg/mmol. However, when ACR greater than or equal to 70mg/mmol NICE recommends ACE inhibitors even in the absence of hypertension. As with BP there are stricter standards in diabetes
- NICE divides stage 3 into Stage 3a and 3b. They recommend testing for bone disease and anaemia in Stage 3b (eGFR 30 to 44), as well as stages 4 and 5
- NICE also recommends addition of the suffix (p) to denote significant proteinuria, defined as an ACR greater than or equal to 30 mg/mmol (protein-creatinine ratio [PCR] greater than or equal to 50 mg/mmol).

The QOF indicators are likely to converge with NICE guidance over coming years.

Patients aged 18 years and over with a persistent estimated GFR or GFR of less than 60 ml/min/1.73m<sup>2</sup> should be included in the register. From 2006, eGFR has been reported automatically when serum creatinine concentration is measured.

Studies of general practice computerised medical records show that it is feasible to identify people with CKD (de Lusignan et al., Fam Pract 2005) and that computer records are a valid source of data (Anandarajah et al., Nephrol Dial Transplant 2005).

The compilation of a register of people with CKD will enable appropriate advice, treatment and support for the patient to preserve kidney function and to reduce the risk of cardiovascular disease.

Eating a protein containing meal can elevate creatinine; therefore, it is recommended that patients do not eat meat in the 12 hours before their creatinine is measured and eGFR estimated.

## **PRIMARY CLINICAL COMPONENT**

Chronic kidney disease (CKD); patient registry

## **DENOMINATOR DESCRIPTION**

This measure applies to practices whose patient population includes individuals with a diagnosis of chronic kidney disease (CKD) (one practice at a time).

## **NUMERATOR DESCRIPTION**

The practice can produce a register of patients aged 18 years and over with chronic kidney disease (CKD) (US National Kidney Foundation: Stage 3 to 5 CKD)

### Evidence Supporting the Measure

#### EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

#### NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Diagnosis and management of chronic kidney disease.](#)

### Evidence Supporting Need for the Measure

#### NEED FOR THE MEASURE

Unspecified

### State of Use of the Measure

#### STATE OF USE

Current routine use

#### CURRENT USE

Internal quality improvement  
National reporting  
Pay-for-performance

### Application of Measure in its Current Use

#### CARE SETTING

Physician Group Practices/Clinics

#### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

#### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Group Clinical Practices

**TARGET POPULATION AGE**

Does not apply to this measure

**TARGET POPULATION GENDER**

Does not apply to this measure

**STRATIFICATION BY VULNERABLE POPULATIONS**

Does not apply to this measure

**Characteristics of the Primary Clinical Component**

**INCIDENCE/PREVALENCE**

See the "Rationale" field.

**ASSOCIATION WITH VULNERABLE POPULATIONS**

Unspecified

**BURDEN OF ILLNESS**

Unspecified

**UTILIZATION**

Unspecified

**COSTS**

Unspecified

**Institute of Medicine National Healthcare Quality Report Categories**

**IOM CARE NEED**

Not within an IOM Care Need

**IOM DOMAIN**

Not within an IOM Domain

## Data Collection for the Measure

### **CASE FINDING**

Does not apply to this measure

### **DENOMINATOR SAMPLING FRAME**

Does not apply to this measure

### **DENOMINATOR INCLUSIONS/EXCLUSIONS**

#### **Inclusions**

This measure applies to practices whose patient population includes individuals with a diagnosis of chronic kidney disease (CKD) (one practice at a time).

#### **Exclusions**

Unspecified

### **RELATIONSHIP OF DENOMINATOR TO NUMERATOR**

Does not apply to this measure

### **DENOMINATOR (INDEX) EVENT**

Does not apply to this measure

### **DENOMINATOR TIME WINDOW**

Does not apply to this measure

### **NUMERATOR INCLUSIONS/EXCLUSIONS**

#### **Inclusions**

The practice can produce a register of patients aged 18 years and over with chronic kidney disease (CKD) (US National Kidney Foundation: Stage 3 to 5 CKD)

#### **Exclusions**

Unspecified

### **MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS**

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

### **NUMERATOR TIME WINDOW**

Encounter or point in time

**DATA SOURCE**

Registry data

**LEVEL OF DETERMINATION OF QUALITY**

Does not apply to this measure

**PRE-EXISTING INSTRUMENT USED**

Unspecified

**Computation of the Measure**

**SCORING**

Categorical Variable

**INTERPRETATION OF SCORE**

Passing score defines better quality

**ALLOWANCE FOR PATIENT FACTORS**

Does not apply to this measure

**STANDARD OF COMPARISON**

External comparison at a point in time  
Internal time comparison

**Evaluation of Measure Properties**

**EXTENT OF MEASURE TESTING**

Unspecified

**Identifying Information**

**ORIGINAL TITLE**

CKD 1. The practice can produce a register of patients aged 18 years and over with CKD (US National Kidney Foundation: Stage 3 to 5 CKD).

**MEASURE COLLECTION**

## [Quality and Outcomes Framework Indicators](#)

### **MEASURE SET NAME**

#### [Chronic Kidney Disease](#)

### **DEVELOPER**

British Medical Association  
National Health Service (NHS) Confederation

### **FUNDING SOURCE(S)**

The expert panel who developed the indicators were funded by the English Department of Health.

### **COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE**

The main indicator development group is based in the National Primary Care Research and Development Centre in the University of Manchester. They are: Professor Helen Lester, NPCRDC, MB, BCH, MD; Dr. Stephen Campbell, NPCRDC, PhD; Dr. Umesh Chauhan, NPCRDC, MB, BS, PhD.

Others involved in the development of individual indicators are: Professor Richard Hobbs, Dr. Richard McManus, Professor Jonathan Mant, Dr. Graham Martin, Professor Richard Baker, Dr. Keri Thomas, Professor Tony Kendrick, Professor Brendan Delaney, Professor Simon De Lusignan, Dr. Jonathan Graffy, Dr. Henry Smithson, Professor Sue Wilson, Professor Claire Goodman, Dr. Terry O'Neill, Dr. Philippa Matthews, Dr. Simon Griffin, Professor Eileen Kaner.

### **FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST**

None for the main indicator development group.

### **ENDORSER**

National Health Service (NHS)

### **ADAPTATION**

Measure was not adapted from another source.

### **RELEASE DATE**

2006 Feb

### **REVISION DATE**

2009 Mar

## MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: British Medical Association (BMA), and NHS Employers. Quality and outcomes framework guidance for GMS contract 2008/09. London (UK): British Medical Association, National Health Service Confederation; 2008 Apr. 148 p.

## SOURCE(S)

British Medical Association (BMA) and NHS Employers. Quality and outcomes framework guidance for GMS contract 2009/10. London (UK): British Medical Association, National Health Service Confederation; 2009 Mar. 162 p.

## MEASURE AVAILABILITY

The individual measure, "CKD 1. The Practice Can Produce a Register of Patients Aged 18 Years and Over with CKD (US National Kidney Foundation: Stage 3 to 5 CKD)," is published in the "Quality and Outcomes Framework Guidance." This document is available from the [British Medical Association Web site](#).

## NQMC STATUS

This NQMC summary was completed by ECRI on November 14, 2006. The information was verified by the measure developer on November 29, 2006. This NQMC summary was updated by ECRI Institute on January 28, 2009. This NQMC summary was updated again by ECRI Institute on October 1, 2009. The information was verified by the measure developer on March 4, 2010.

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